AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) A method in a computer system for modeling flow of water of a site having sources of water and areas of land uses, the method comprising:

providing objects representing areas of a land use, each object for calculating ~~the~~ an outflow of water for ~~that~~ an area based on an inflow of water to the area and attributes of the ~~object~~area, each area being a type of pervious area or a type of impervious area;

providing objects representing sources of water, each object for calculating ~~the~~ an outflow of ~~that~~ a source of water based on attributes of the source of water;

generating a graphical representation of flow of water dependencies of the areas and the sources of water, ~~the~~ each ~~dependencies~~ dependency indicating an outflow of water from ~~an~~ one area or one source of water to an inflow of water of an~~other~~ area~~, each area and water source having an associated object~~;

receiving the attributes describing each area and each source of water of the site; and

performing a simulation of water flow by, for each of a plurality of time increments,

invoking the object ~~associated with~~ representing each source of water to calculate the outflow of ~~that~~ a source of water represented by the object for ~~that~~ the time increment; and

invoking the object ~~associated with~~ representing each area in accordance with the flow of water dependencies to calculate the outflow of water of ~~that~~ an area represented by the object for ~~that~~ the time increment.

2.   (Canceled)

3.   (Currently Amended) The method of claim 1 wherein the generating of the graphical representation includes:

          providing an icon representing each area and source of water; and

          receiving from a user instructions on ~~the~~ placement and interconnection of the icons, the interconnections representing the dependencies.

4.   (Currently Amended) The method of claim 1 wherein ~~the~~ at least one received attributes ~~of~~ describing an area includes size of the area.

5.   (Original) The method of claim 1 wherein the attributes of a source of water include periodic rainfall amounts.

6.   (Original) The method of claim 1 wherein outflow includes run off.

7.   (Original) The method of claim 1 wherein outflow includes evapotranspiration.

8.   (Original) The method of claim 1 wherein outflow includes infiltration.

9.   (Original) The method of claim 1 wherein outflow includes interflow.

10.   (Original) The method of claim 1 wherein outflow includes groundwater flow.

11.   (Original) The method of claim 1 including:

receiving constraints;

receiving an objective function; and

repeatedly performing the simulation varying parameters within the received constraints to optimize the objective function.

12.   (Currently Amended) The method of claim 1 wherein an area represents multiple occurrences of similar areas.

13.   (Original) The method of claim 1 wherein multiple outflows can be combined into a single outflow.

14.   (Original) The method of claim 1 wherein an outflow can be divided into multiple outflows.

15.   (Currently Amended) The method of claim 1 wherein an objects representing an area also calculates sediment amounts.

16.   (Currently Amended) A method in a computer system for modeling flow of water of a site having areas of each land uses and sources of water, the method comprising:

generating a graphical representation of the flow of water dependencies of areas and sources of water of the site, each area being a type of pervious area or a type of impervious area, the each dependencies dependency indicating an outflow of water from an one area or one source of water to an inflow of another area;

receiving attributes describing each area and each source of water; and

performing a simulation of flow of water by, for each of a plurality of time increments,

calculating the outflow of each source of water for that the time increment based on the attributes of the source of water; and

calculating the outflow of each area for that the time increment based on the inflows and attributes of that the area.

17.   (Original) The method of claim 16 wherein the generating of the graphical representation includes:

    providing an icon representing each area and water source; and

    receiving from a user instructions on placement and interconnection of the icons, the interconnections representing the dependencies.

18.   (Original) The method of claim 16 wherein the attributes of an area include size of the area.

19.   (Original) The method of claim 16 wherein the attributes of a source of water include periodic rainfall amounts.

20.   (Original) The method of claim 16 including repeatedly performing the simulation varying parameters based on user provided constraints to optimize an objective function.

21.   (Canceled)

22.   (Original) The method of claim 16 wherein an impervious area is a road.

23.   (Original) The method of claim 16 wherein an impervious area is a roof.

24.   (Original) The method of claim 16 wherein the generating of the graphical representation includes providing an icon for each type of impervious area.

25.   (Original) The method of claim 16 wherein the generating of the graphical representation includes providing an icon for each type of pervious area.

26.   (Currently Amended) A method in a computer system for modeling flow of water of a site having areas of ~~each~~ land use~~s~~ and sources of water, the method comprising:

generating a graphical representation of ~~the~~ flow of water dependencies of areas and sources of water of the site, <u>each area being a type of pervious area or a type of impervious area,</u> ~~the~~ <u>each</u> ~~dependencies~~ <u>dependency</u> indicating an outflow <u>of water</u> from ~~an~~ <u>one</u> area or <u>one</u> source of water to an inflow of an<u>other</u> area;

receiving attributes describing each area and each source of water; and

performing a simulation of flow of water based on the attributes and dependencies of the areas and source<u>s</u> of water.

27.   (Original) The method of claim 26 wherein the graphical representation is generated by dragging and dropping icons representing areas of the site.

28.   (Original) The method of claim 26 wherein the graphical representation is generated by dragging and dropping icons representing rainfall and evapotranspiration.

29.   (Original) The method of claim 26 wherein the graphical representation is generated by connecting icons to indicate flow of water.